

U.S. Serial No.: 10/805,769
Docket No.: 2156-528A

Examiner: R. Harlan
Art Unit: 1713

CLAIM AMENDMENTS

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Claims 1-13. (Canceled)

Claim 14. (Currently amended) A method of preparing an aqueous primer composition comprising the steps of: a) preparing an aqueous surfactant pre-mixture comprising a non-ionic surfactant and deionized water; b) preparing a layered silicate dispersion comprising the layered silicate and water; and thereafter c) preparing an aqueous primer composition by mixing, in order: i) a binder; ii) an acrylic acid copolymer ~~a copolymer or monomer~~; iii) the layered silicate dispersion; iv) the surfactant pre-mixture; and v) optionally, a dye or pigment.

Claim 15. (Original) The method according to claim 14, wherein the binder comprises a polyurethane.

Claim 16. (Original) The method according to claim 15, wherein the concentration of the polyurethane in the aqueous primer composition is about 25% to about 75% by weight based on dry content.

Claim 17. (Original) The method according to claim 14, wherein the copolymer is an ethylene acrylic copolymer.

Claim 18. (Original) The method according to claim 17 wherein the concentration of the copolymer in the aqueous primer composition is about 5% to about 40% by weight based upon dry content.

Claim 19. (Original) The method according to claim 14, wherein the layered silicate is selected from the group consisting of phyllosilicates, micaceous minerals, mixed layered illite/smectite minerals, and combinations of the foregoing.

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Claim 20. (Original) The method according to claim 19, wherein the layered silicate is a phyllosilicate and is selected from the group consisting of montmorillonite, nontronite, biedellite, volkonskonite, hectorite, saponite, sauconite, sobockite, stevensite, svinfordite, vermiculite, and combinations of the foregoing.

Claim 21. (Original) The method according to claim 20, wherein the layered silicate is a montmorillonite and is selected from the group consisting of sodium montmorillonite, calcium montmorillonite, magnesium montmorillonite, and combinations of the foregoing.

Claim 22. (Original) The method according to claim 14, wherein the concentration of the layered silicate in the aqueous primer composition is about 1% to about 10% by weight based on dry content.

Claim 23. (Original) The method according to claim 14, wherein the concentration of the surfactant in the aqueous primer composition is about 0.5% to about 5% by weight based on dry content.

Claim 24. (Original) The method according to claim 14, wherein the layered silicate dispersion is mixed into the aqueous primer composition through high shear mixing.

Claim 25. (Currently amended) A method of adhering a photopolymer resin to an underlying substrate in the manufacture of flexographic printing elements, the method comprising the steps of: a) coating an aqueous primer dispersion onto the substrate, wherein the aqueous primer comprises: i) a binder; ii) a copolymer or monomer; iii) a layered silicate; iv) optionally, a surfactant; and v) optionally, a dye or pigment; and b) adhering a photopolymer resin to the primed substrate.

Claim 26. (Original) The method according to claim 25, wherein prior to step a), the substrate is pretreated with an adhesion promoting composition.

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Claim 27. (Original) The method according to claim 25, wherein the binder comprises a polyurethane.

Claim 28. (Original) The method to claim 27, wherein the concentration of the polyurethane in the aqueous primer composition is about 20% to about 75% by weight based on dry content.

Claim 29. (Original) The method according to claim 25, wherein the copolymer is an ethylene acrylic acid copolymer.

Claim 30. (Original) The method according to claim 28, wherein the concentration of the copolymer in the aqueous primer composition is about 5% to about 40% by weight based on dry content.

Claim 31. (Original) The method according to claim 25, wherein the layered silicate is selected from the group consisting of phyllosilicates, micaceous minerals, mixed layered illite/smectite minerals, and combinations of the foregoing.

Claim 32. (Original) The method according to claim 31, wherein the layered silicate is a phyllosilicate and is selected from the group consisting of montmorillonite, nontronite, biedellite, volkonskonite, hectorite, saponite, sauconite, sobockite, stevensite, svinfordite, vermiculite, and combinations of the foregoing.

Claim 33. (Original) The method according to claim 32, wherein the layered silicate is a montmorillonite and is selected from the group consisting of sodium montmorillonite, calcium montmorillonite, magnesium montmorillonite, and combinations of the foregoing.

Claim 34. (Original) The method according to claim 31, wherein the concentration of the

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layered silicate in the aqueous primer composition is about 1% to about 10% by weight based on dry content.

Claim 35. (Original) The method according to claim 25, wherein the layered silicate is dispersed in water and the dispersion is then added to the aqueous primer composition.

Claim 36. (Original) The method according to claim 35, wherein the layered silicate dispersion is mixed into the aqueous primer composition through high shear mixing.

Claim 37. (Original) The method according to claim 25, wherein the surfactant is a non-ionic surfactant.

Claim 38. (Original) The method according to claim 35, wherein the concentration of the surfactant in the aqueous primer composition is about 0.5% to about 5% by weight based on dry content.

Claim 39. (Original) The method according to claim 38, wherein the surfactant is pre-mixed with a rheology modifier and water before being added to the aqueous primer composition.

Claim 40. (Original) The method according to claim 25, wherein the substrate is formed from a transparent or opaque material, wherein said material is selected from the group consisting of paper, cellulosic films, polymers and metals.

Claim 41. (Original) The method according to claim 35, wherein the aqueous primer dispersion is coated onto the substrate by roll coating, brush coating, or spray coating.

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